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Book Review

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Abstract

A UNIQUE HALLMARK OF CRIMINAL LAW is that it concerns itself with the moral culpability of offenders. Penal theory has long purported to align with the prevalent orthodoxies of criminology, which have been increasingly informed by cognitive science. Recent advancements in brain imaging and neuroscience have revealed a growing ability to target structural and functional impairments that predispose psychopathy and violent tendencies. Neurointerventions, Crime, and Punishment delineates the ethical objections to the use of brain interventions, or "neurointerventions" (NIs) on offenders within a criminal justice framework for the purpose of crime prevention.

Book Review

Neurointerventions, Crime, and Punishment: Ethical Considerations by Jesper Ryberg[1]

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A UNIQUE HALLMARK OF CRIMINAL LAW is that it concerns itself with the moral culpability of offenders.[3] Penal theory has long purported to align with the prevalent orthodoxies of criminology, which have been increasingly informed by cognitive science. Recent advancements in brain imaging and neuroscience have revealed a growing ability to target structural and functional impairments that predispose psychopathy and violent tendencies.[4] *Neurointerventions, Crime, and Punishment* delineates the ethical objections to the use of brain interventions, or "neurointerventions" (NIs) on offenders within a criminal justice framework for the purpose of crime prevention.[5] NIs encompass a variety of methods that affect the conative, affective, or cognitive aspects of the mind.[6] The author,

1. Jesper Ryberg, *Neurointerventions, Crime, and Punishment* (Oxford University Press, 2019).
2. J.D. Candidate (2021), Osgoode Hall Law School; B.Sc. Microbiology & Immunology, McGill University.
3. Paul H Robinson, "The Criminal-Civil Distinction and the Utility of Desert" (1996) 76 BUL Rev 201.
4. See *e.g.* Hannah L Bedard, "The Potential for Bioprediction in Criminal Law" (2017) 18 Colum Sci & Tech L Rev 268; Yaling Yang, Andrea L Glenn & Adrian Raine, "Brain abnormalities in antisocial individuals: implications for the law" (2008) 26 Behavioral Sciences & L 65; Kent A Kiehl & Morris B Hoffman, "The Criminal Psychopath: History, Neuroscience, Treatment, and Economics" (2011) 51 Jurimetrics 355.
5. Ryberg, *supra* note 1 at 1.
6. *Ibid* at 9.

Jesper Ryberg, approaches the subject matter from a background in criminal justice ethics and neuroethics. As a professor of Ethics and Philosophy of Law at Roskilde University in Denmark, he has made an impressive contribution to the recent literature in the fields of penal theory, ethics, and neuroscience.[7]

In his book, Ryberg questions the circumstances under which it may be ethically permissible to offer targeted NI to offenders in exchange for a reduced sentence, or even to impose NI as a form of punishment. This proposed treatment would target offenders that are likely to re-offend seeking to pacify certain mental traits that are linked to recidivism. The book represents an addition to a growing discourse focused criminal law's "renewed infatuation" with neuroscience.[8] It is divided into seven chapters, but the overall discussion is oriented toward answering the following question: whether offering crime-preventative NI to offenders in exchange for a reduction of their punishment is ethically justifiable from a theoretical perspective (*i.e.*, within an idealized penal system), and whether the same arguments would pass muster in an imperfect criminal justice system.

Ryberg begins by addressing the legitimacy of offering the option of NI to offenders by evaluating whether or not it would vitiate the principle of informed consent.[9] He finds that it would not be coercive to give this option, as it would constitute an *offer* rather than a *threat*.[10] However, this assumes that valid consent is required for the exchange of NI for leniency to be morally acceptable.[11] If the importance of consent reflects the significance of autonomy, then crime-preventative NI may be morally acceptable *despite* vitiating consent.[12] Ryberg contends that this is because NI as a medical treatment would benefit society through crime reduction, analogous to the societal benefits of mandatory vaccination of infants. Further, Ryberg argues, the effects of NI on the offender may even *enhance* autonomy, if the purpose of the NI is to improve impulse control.[13]

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7. See *e.g.* Jesper Ryberg, "Proportionality and the Seriousness of Crimes" in Michael Tonry, ed, *Of One-eyed and Toothless Miscreants: Making the Punishment Fit the Crime?* (Oxford University Press, 2019); Jesper Ryberg, "Neuroethics and Brain Privacy" (2017) 23 Res Publica 153; Jesper Ryberg, "Neuroscientific Treatment of Criminals and Penal Theory" in David Birks & Thomas Douglas, eds, *Treatment for Crime: Philosophical Essays on Neurointerventions in Criminal Justice* (Oxford University Press, 2018) 177.
8. See Amanda C Pustilnik, "Violence on the Brain: A Critique of Neuroscience in Criminal Law" (2009) 44 Wake Forest L Rev 183 at 185.
9. Ryberg, *supra* note 1 at 26.
10. *Ibid* at 32.
11. *Ibid* at 35.
12. *Ibid* at 36.
13. *Ibid* at 37.

This view is among the more conservative in a polarized debate with respect to the requirements for administration of NIs to offenders. Many have argued that doing so would only be permissible under certain conditions: for example, where there is a lack of coercion, informed consent, or voluntariness on the part of the offender.[14] While this seems to be the prevailing view, other scholars have echoed the argument that offering NI in return for leniency is not coercive, and accordingly, does not undermine autonomy.[15] Regardless, challenging the requirement of consent altogether is a highly controversial stance.[16]

Ryberg goes on to argue that, even if consent need not be obtained, the use of NIs on offenders may still be morally unacceptable if it is exploitative or outside the ambit of appropriate state action.[17] He describes wrongful exploitation as taking advantage of another party in dire circumstances, where unfairness can arise—either in the process or outcome of a transaction.[18] Ryberg concludes that NIs are not exploitative, finding a lack of unfair advantage, but does not come to a conclusion with respect to the administration of NIs by the state.[19] Nevertheless, he finds the use of NIs to be justifiable by analogizing them with existing forms of punishment.[20] In other words, Ryberg questions the requirement of consent for the use of NIs on offenders by pointing out that incarceration as a punishment does not require consent. This is not an uncommon line of reasoning for justifying the use of NIs within criminal justice systems. The comparison between *directly* intervening with the brains of offenders (*i.e.*, through NIs) and *indirect* intervention through punishment, rehabilitation, parole conditions, et cetera, has been made by other proponents of NI.[21]

Having found it ethically acceptable to offer NIs to an offenders in return for leniency, Ryberg explores the ethical considerations surrounding the *compulsory*

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14. See *e.g.* Henry T Greely, "Neuroscience and Criminal Justice: Not Responsibility but Treatment" (2008) 56 U Kan L Rev 1103 at 1134; Thomas Douglas, "Criminal Rehabilitation Through Medical Intervention: Moral Liability and the Right to Bodily Integrity" (2014) 18 J Ethics 101 at 103; Kari A Vanderzyl, "Castration as an Alternative to Incarceration: An Impotent Approach to the Punishment of Sex Offenders" (1994) 15 N III UL Rev 107 at 140.
15. See *e.g.* A Wertheimer & FG Miller, "There Are (STILL) No coercive Offers" (2013) 40 J Medical Ethics 592.
16. Douglas, *supra* note 14 at 104.
17. Ryberg, *supra* note 1 at 39.
18. *Ibid* at 39-41.
19. *Ibid* at 42-43, 47.
20. *Ibid* at 49.
21. See Greely, *supra* note 14; Douglas, *supra* note 14.

administration of NI to offenders as a form of moral bioenhancement.[22] He addresses the objections that moral bioenhancement presupposes a standard acceptable moral disposition (*i.e.*, a moral "yardstick");[23] that it would prevent offenders from being able to *choose* between right and wrong;[24] and that it would fundamentally change an offender's identity.[25] In refuting these points, Ryberg again relies on parallels with incarceration as a form of punishment, and questions the general implications of the use of (and need for) a moral "yardstick."[26] This position is more radical, and is generally met with disagreement.[27] Proponents of Ryberg's view have analogized the use of compulsory NI to mandatory medical intervention for the purpose of infectious disease control.[28] Critics, on the other hand, raise the concern of potential governmental misuse of such interference with the minds of offenders.[29]

The second question Ryberg addresses is whether compulsory NIs intrude on bodily integrity, and if so, whether that makes NI morally unacceptable.[30] Ryberg argues for a threshold position where the right to bodily integrity can be overruled where enough is at stake.[31] Again, by analogy, he justifies the use of non-surgical intrusions on bodily integrity by comparing NIs to other compulsory medical violations of offenders' bodily integrity, such as drawing blood.[32] Ryberg's reasoning on the topic of bodily integrity closely follows that of Thomas Douglas, some five years earlier.[33] Douglas also compares the moral permissibility of administering non-consensual NIs on offenders with the lack

22. Ryberg, *supra* note 1 at 53.
23. *Ibid* at 57.
24. *Ibid* at 61.
25. *Ibid* at 69.
26. *Ibid* at 59, 62, 65, 73.
27. See *e.g.* Elizabeth Shaw, "The Right to Bodily Integrity and the Rehabilitation of Offenders through Medical Interventions: A Reply to Thomas Douglas" (2019) 12 Neuroethics 97; Charlotte Kouo, "The Prospects of Introducing Neurochemical Intervention in Crime Policy" (2018) 6 Leg Issues J 33; David Birks & Alena Buyx, "Punishing Intentions and Neurointerventions" 9 AJOB Neuroscience 133; Stephen J Morse, "Neuroscience, Free will, and Criminal Responsibility" in Walter Glannon, ed, *Free will and the brain: Neuroscientific, philosophical, and legal perspectives* (Cambridge University Press, 2015) at 251.
28. Jonathan Pugh & Thomas Douglas, "Justification for Non-Consensual Medical Intervention: From Infectious Disease Control to Criminal Rehabilitation" (2016) 35 Crim Justice Ethics 205 at 206.
29. See Kouo, *supra* note 27 at 40.
30. Ryberg, *supra* note 1 at 75.
31. *Ibid* at 80.
32. *Ibid* at 81-82.
33. Douglas, *supra* note 14 at 107.

of consent generally required for punishment within criminal justice systems.[34] He argues that, in committing crimes, offenders may become *liable* to some forms of what he terms "medical correctives."[35] Douglas and Ryberg's works are in conversation with one another, with Douglas choosing to refute the consent requirement by appealing to how the right to bodily integrity applies to offenders in the criminal justice context.[36]

Physical integrity, however, does not encompass the right to mental non-interference, which ostensibly protects offenders from forcible mind-alteration. Nevertheless, Ryberg concludes that such a right is either so broad as to be incompatible with existing types of punishment, or so narrow that it is not infringed by the administration of compulsory NI on offenders.[37] Interestingly, Ryberg does not consider how medical interventions are used to affect the minds of offenders in other contexts, such as with drug addiction or mental illness.[38] For instance, in Canada, the *Criminal Code* permits sentencing judges to include optional conditions to a sentence, such as attending a treatment program.[39] Alternatively, in the United States, participation in drug treatment programs may be a required condition of probation or parole.[40] The United States has also implemented a scheme for administering mandatory NIs to mentally ill offenders, provided the treatment is in the offender's medical interest and the offender poses a danger to themself or those around them.[41]

Having defended the concept of compulsory NI, Ryberg invites the reader to reconsider the use of NI on offenders, not in lieu of punishment, but *as a punishment itself*.[42] He lays out the four pillars of punishment: imposing harm upon an offender;[43] providing retribution for illegal conduct;[44] imposing the authority of the state to punish;[45] and symbolizing reprobation.[46] Ryberg easily

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34. *Ibid* at 105.
35. *Ibid*.
36. *Ibid*. See also Pugh & Douglas, *supra* note 28.
37. Ryberg, *supra* note 1 at 92.
38. See *e.g.* Greely, *supra* note 14; Donna L Hall, Richard P Miraglia & Li-Wen G Lee, "The Increasingly Blurred Line between Mad and Bad: Treating Personality Disorders in the Prison Setting" (2010) 74 Alta L Rev 1277.
39. RSC 1985, c C-46, s 742.3(2)(e).
40. Greely, *supra* note 14 at 1108.
41. *Ibid* at 1109.
42. Ryberg, *supra* note 1 at 95.
43. *Ibid* at 101.
44. *Ibid* at 102.
45. *Ibid* at 103.
46. *Ibid* at 104.

finds that the imposition of NI on offenders satisfies these requirements, and therefore NI might theoretically serve as a form of punishment.[47]

But in order to properly function as punishment, it must be a justified punishment.[48] Such punishments must meet additional penal theoretical requirements: encouraging inclusion and reintegration;[49] drawing attention to the nature of the crime and its consequences;[50] facilitating remorse;[51] engaging the rational capacities of the offender;[52] and creating a proportional punishment.[53] Ryberg argues that, as a method of cognitive rehabilitative therapy, NIs can improve cognitive abilities and thus satisfy the first four requirements. When it comes to proportionality, Ryberg emphasizes that, in order to satisfy this, NI should be comparable in severity to other punishments.[54]

There are also characteristics that punishments *must not possess* in order to be morally acceptable in principle.[55] These include: punishments that treat people as an instrument (*i.e.*, as means to an end);[56] punishments that are degrading, humiliating, or violate human dignity;[57] punishments that destroy or prevent the offender from exercising their rational capacity;[58] and punishments that portray offenders as sub-human.[59] Ryberg's approach to his analysis within this framework is consistent: he finds no clear evidence that certainly places the use of NIs on offenders into any of these categories of unacceptable punishment.[60]

Ryberg also considers whether it would be morally legitimate for physicians to use their medical expertise to administer NIs to offenders.[61] An objection could be raised based on the moral significance of: the Hippocratic Oath; the physician-patient relationship; and the general trust we place in physicians.[62] First, Ryberg argues that crime-preventative NIs do not violate the Hippocratic

47. *Ibid* at 106.
48. *Ibid* at 107.
49. *Ibid*.
50. *Ibid* at 110.
51. *Ibid* at 113.
52. *Ibid* at 115-116.
53. *Ibid* at 118.
54. *Ibid* at 119.
55. *Ibid* at 120.
56. *Ibid* at 123.
57. *Ibid* at 124.
58. *Ibid* at 127.
59. *Ibid* at 129.
60. *Ibid* at 132.
61. *Ibid* at 137.
62. *Ibid* at 138.

Oath because: physicians regularly act in ways that do not involve healing or preventing harm;[63] physicians should engage in functions with morally desirable outcomes;[64] and many clinical treatments actually necessitate some harm.[65] Ryberg pre-empts objections based on the special responsibility of physicians to patients by asserting that there are morally acceptable occasions which require physicians to act outside the interests of their patients,[66] or even in the interests of the state (*e.g.*, quarantining patients to prevent an infectious outbreak).[67] Finally, he argues against a trust-based objection by comparing the administration of NIs with physician participation in the death penalty, for which there is no empirical evidence of an adverse effect on the public's trust in physicians.[68]

The final question considered is whether historical abuses of offenders constitute an objection to the introduction of NIs within contemporary criminal justice schemes.[69] Ryberg characterizes this argument by borrowing from Emily McTernan's principle of "pessimist induction," which amounts to an adverse presumption informed by prior unethical behaviour.[70] Ryberg finds that, in order for this to constitute a valid objection, the pessimist induction principle requires specificity in scope. Even then, he argues, it is unclear whether or not an adverse inductive inference is morally acceptable reasoning.[71] The principle itself is flawed by a lack of counter-examples of historical successes, rather than just the mistakes made in wrongfully administering NIs.[72] Ultimately, Ryberg concludes that past misuses of NIs should not bar future use, so long as this medical history remains relevant as a cautionary tale.[73]

In the seventh and final chapter, Ryberg gives a long-awaited disclaimer: that the ethical arguments advanced up until this point presuppose a criminal justice system that conforms to theoretical ideals.[74] He acknowledges the significant discrepancy between penal theory and penal practice, notably resulting in

63. *Ibid* at 146.
64. *Ibid* at 147.
65. *Ibid*.
66. *Ibid* at 152.
67. *Ibid* at 152-153.
68. *Ibid* at 157.
69. *Ibid* at 166-167.
70. *Ibid* at 172.
71. *Ibid* at 173-177.
72. *Ibid* at 180.
73. *Ibid* at 185.
74. *Ibid* at 187.

phenomena such as mass incarceration, increasing rates of imprisonment, and over-punishment.[75]

Ryberg goes on to re-evaluate the objections discussed in the previous chapters through the lens of a non-ideal criminal justice system.[76] First, on the issue of coercion, he finds that in a system where the baseline punishment is not morally justifiable, offering NI in exchange for leniency would indeed constitute coercion.[77] Secondly, Ryberg's view of compulsion is that, in existing criminal systems where prediction of recidivism is unreliable, and inefficient punishment schemes are implemented, it would be reckless for NIs to be administered as a compulsory treatment.[78] Ryberg then reconsiders the administration of NIs *as punishment*. He argues that since current penal systems do not practically meet theoretical punishment requirements, NIs should not be imposed for fear that they will not be implemented consistently in light of these criteria.[79] Finally, Ryberg returns to the objection of physician participation. Objections based on the Hippocratic Oath and the physician-patient relationship, he argues, no longer hold water given the unreliability of recidivism rates and the potential for incorrect or harmful administration of NIs.[80]

The idea that Ryberg's arguments are valid *only* with the presupposition of ideal penal theory both undercuts his position and reinforces the pattern of reasoning by analogy in this text. Certainly, in an ideal penal system, it would be valid to justify concessions (*e.g.*, to consent, autonomy, bodily integrity, et cetera) by appealing to how parallel concessions were successfully made within the same framework. The use of incarceration is generally legitimized in the face of human rights concerns as a means to protect society from criminals.[81] While the goal of crime reduction by means of NI flows from this concept, the justification of encroachment upon offenders' rights needs to do more than borrow from adjacent policy objectives. Further, it has been argued that the idea of "pre-empting" criminality with NIs contradicts the value of due process, as the existing model of criminal justice is designed to *respond* to crime.[82] To employ NIs in this way would, in essence, use factors that are outside the conscious

75. *Ibid* at 189-190.
76. *Ibid* at 195.
77. *Ibid* at 197.
78. *Ibid* at 205.
79. *Ibid* at 206.
80. *Ibid* at 209.
81. Kouo, *supra* note 27 at 41.
82. *Ibid* at 40.

control of offenders to discriminate between them.[83] This would certainly raise additional ethical questions.

At the time of writing, it is still unclear whether the bourgeoning field of neurocriminology should prove to be so legitimate as to allow NIs to become part of penal policy.[84] There is a diverse plurality of neuroethical perspectives and approaches to modern cognitive science, the more radical of which will likely never see the inside of a prison.[85] Some authors have even expressed concerns related to the ethical considerations surrounding the *development* of safe and effective NI treatments.[86] For example, animal models may not suffice for testing cutting-edge therapies, and there would be significant hurdles—both practical and ethical—to conducting clinical trials with humans.

Overall, *Neurointerventions, Crime, and Punishment* is an important foray into the ethics of incorporating NIs into penal policy. Ryberg openly addresses seemingly unsavoury questions and brings a complex history of crime and punishment up to date with contemporary moral theory and cognitive science initiatives. With this text, Ryberg expands upon his previous contributions by offering an in-depth, dispassionate defence of NI in lieu of punishment (and *as* punishment). This book is a key contribution to the conversation surrounding medical ethics. In furthering this discourse, Ryberg makes palatable even the most radical components of the debate. This book will likely encourage further research and facilitate a more nuanced engagement with this issue among experts.

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83. Bedard, *supra* note 4 at 320.
84. Kouo, *supra* note 27 at 43.
85. Matthias Mahlmann, "Ethics, Law and the Challenge of Cognitive Science" (2007) 8 German LJ 577 at 577.
86. Greely, *supra* note 14 at 1121.